AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions of claims in the application:

Listing of Claims:

1. (Previously Presented) A computer implemented system for managing the access of system resources in a database comprising the following computer executable components:

a lock manager that acquires a parent lock and one or more child locks on resource(s) of a database, the lock manager stores a reference count of the one or more child locks within the parent lock such that as each child lock is released, the reference count decrements by a value of one, and the parent lock is released upon release of all child locks associated therewith.

2. (Previously Presented) The system of claim 1, the parent lock is released upon the reference count attainment of a zero value.

3. (Previously Presented) The system of claim 1, further comprising a lock monitoring system that monitors the reference count of child locks associated with the parent lock.

4. (Cancelled).

5. (Previously Presented) The system of claim 1 further comprising a lock hierarchy designated by the lock manager.

6. (Previously Presented) The system of claim 5, the lock hierarchy comprises at least one of a database lock, page lock, table lock and row lock.

7. (Previously Presented) The system of claim 5 further comprising a page scan optimization that maintains a last child lock until a next one is acquired.

8. (Previously Presented) The system of claim 1, the parent lock is an intent lock that protects resources at lower levels.

9. (Previously Presented) The system of claim 5, the one or more child locks is at least one of an exclusive, update and shared lock at a level of the hierarchy.

10. (Previously Presented) The system of claim 1, the reference count is performed upon completion of at least one of a scan, query or operation.

11. (Previously Presented) The system of claim 1 further comprising a pointer that can guide a release operation from each child lock to a respective parent lock.

12. (Previously Presented) A computer implemented method for controlling locks to manage access to system resources in a database comprising:

defining a parent-child relation ship among a plurality of locks in a lock hierarchy;

reference counting one or more child locks associated with a parent lock, such that a parent lock maintains a count reference of respective child locks associated therewith and as each child lock is released, the reference count decrements by a value of one; and,

releasing a parent lock upon a release of all the respective child locks associated therewith.

13. (Original) The method of claim 12 the defining act further comprising arranging a top-down lock granularity based on logical or physical granularities of objects stored in the data base.

14. (Original) The method of claim 12 further comprising pointing to a parent lock upon releasing a respective child lock associated therewith.

15. (Original) The method of claim 12 further comprising reference counting child locks directly associated with the parent lock.

16. (Original) The method of claim 12 further comprising acquiring an intent lock at least in one of a table level, page level and database level.

17. (Original) The method of claim 12 further comprising maintaining a reference count within a structure of the parent lock.

18. (Original) The method of claim 12 further comprising scoping the reference counting of a lock to a transaction.

19. (Cancelled).

20. (Currently Amended) A computer implemented database management system comprising:

locking means for locking a resource on a database;

means for counting one or more child locks associated with the locking means, wherein the counting means is decreased by one as each child lock is released; and

means for determining a lifetime of the locking means based on the number of child locks associated therewith, wherein the lifetime of the locking means ends when the locks associated with all the children are released .

21. (Previously Presented) A computer implemented method for controlling locks to manage access to system resources in a database comprising:

counting one or more child locks associated with a parent lock to obtain a reference count of the child locks associated therewith;

releasing a child lock;

decrementing the reference count by a value of one; and

releasing the parent lock upon the reference count reaching a zero value.

22. (Cancelled).

23. (Original) The method of claim 21 further comprising monitoring the reference count.

24. (Original) The method of claim 21 further comprising identifying the parent lock *via* a pointer.

25. (Cancelled).

26. (Currently Amended) A computer implemented database lock management system for managing access to system resources comprising:

a computer executable lock manager that acquires at least a parent lock and one or more child locks on a database resource, the lock manager creates within the parent lock a reference count of the child lock, the reference count is decremented by one on the release of each child lock, ~~so that~~ the lock manager releases the parent lock upon the reference count attainment of a zero value.

27. (Previously Presented) The system of claim 26 further comprising a further computer executable component that monitors the reference count.

28. (Previously Presented) The system of claim 26 further comprising a forwarding pointer device that identifies a parent lock associated with a released child lock.

29. (Previously Presented) The system of claim 26 further comprising probabilistic classification models.

30. (Previously Presented) The system of claim 26, the reference count is the count of direct child locks associated with the parent lock.

31. (Withdrawn) A system for releasing locks comprising:

guarding means for guarding a logical consistency of a database during performance of concurrent transactions acting thereon ; and

means for determining a lifetime of the guarding means.